

# STEVAL-ISC001V1

## 30 W AC-DC adapter based on the L6565

Data Brief

#### **Features**

- Input voltage range (V<sub>IN</sub>) from 88 to 264 V<sub>AC</sub>
- Mains frequency (fL) 50 / 60 Hz
- Maximum output power (P<sub>OUT</sub> 30 W)
- Output voltage V<sub>OUT</sub> = 15 V ± 3%
- Output current I<sub>OUT</sub> = from 0 to 2 A
- V<sub>RIPPLE</sub> ≤1 %
- Minimum switching frequency (@ 100 V<sub>DC</sub> input voltage) 60 kHz
- Target efficiency (@  $P_{OUT}$ = 30 W,  $V_{IN}$  = 88 264  $V_{AC}$ )  $\eta$ > 80%
- Maximum no-load input power < 0.75 W<sup>(1)</sup>



STEVAL-ISC001V1

### **Description**

This evaluation board is an AC-DC adapter for consumer equipment, typically implemented as an external unit. For more details see *Chapter 1:* Characteristics

December 2007 Rev 1 1/5

Compliant with European Code of Conduct on Efficiency of External Power Supplies, phase 2, 01.01.2003

Characteristics STEVAL-ISC001V1

## 1 Characteristics

As such, it falls within the scope of the European "Code of Conduct on Efficiency of External Power Supplies" and is required to meet efficiency standard under no-load conditions as specified in the following table:

Table 1. No-load conditions

Rated input power	No-load power consumption		
	Phase 1 01.01.2001	Phase 2 <sup>(1)</sup> 01.01.2003	Phase 3 01.01.2005
≥ 0.3 W and < 15 W	1.0 W	0.75 W	0.30 W
≥ 15 W and < 50 W	1.0 W	0.75 W	0.30 W
≥ 50 W and < 75 W	1.0 W	0.75 W	0.30 W

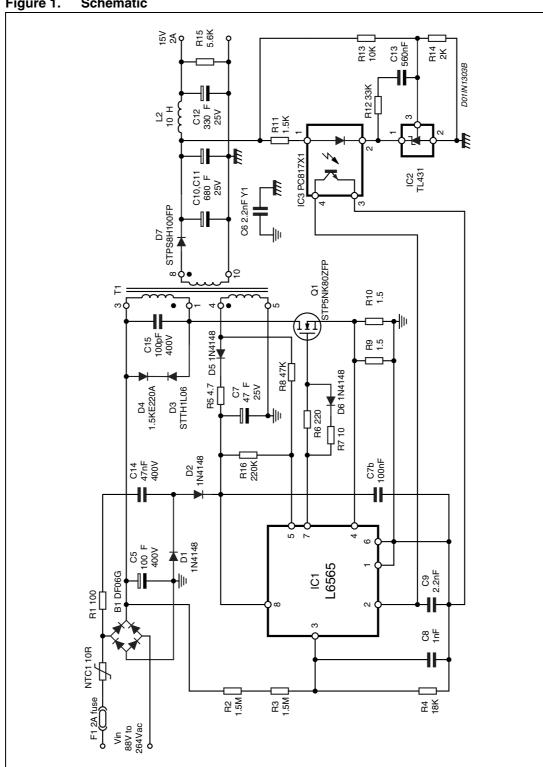
<sup>1.</sup> Compliant with European Code of Conduct on Efficiency of External Power Supplies, phase 2, 01.01.2003

This evaluation board complies with the "Phase 2" requirements. The minimum switching frequency (60 kHz @  $V_{IN}$  = 100  $V_{DC}$ ) has been chosen trading off between the transformer size and frequency-related losses. To provide room for the leakage inductance spike, an 800 V MOSFET (STP5NK80ZFP) is used.

STEVAL-ISC001V1 **Board schematic** 

#### **Board schematic** 2

Figure 1. **Schematic** 



Revision history STEVAL-ISC001V1

# 3 Revision history

Table 2. Document revision history

Date	Revision	Changes
18-Dec-2007	1	Initial release.

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